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February 4, 2002

Mr. Tom Gainer
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject:

Crawford Street Corporation Site

Preliminary Assessment Soil and Groundwater Sampling and Analysis Report

Dear Mr. Gainer:

Enclosed please find three copies of our February 4, 2002, *Preliminary Assessment Soil and Groundwater Sampling Report* for the Crawford Street Corporation (CSC) site in Portland, Oregon. The report presents the results of the sampling and analysis performed in April, June, and July 2001 as part of the Preliminary Assessment at the site. A preliminary data package for the preliminary assessment sampling was presented to DEQ during a June 11, 2001 meeting. DEQ subsequently provided comments on the data set in a letter from you dated June 26, 2001. Most of the comments are addressed in the text of the report. For completeness, each of the comments is provided below along with CSC's responses.

Response to DEQ's Comments

For each comment response, DEQ's comment is first presented (in italics) with CSC's response following (indented and not italicized).

North Area - DEQ Comment 1

Limited sampling along the railroad tracks and yard area showed elevated levels of petroleum and metal contaminants. The three sample locations along the railroad track were selected to represent surface water drainage pathways from the subject site and therefore background railroad contamination cannot be assumed as the source. Data shows that there has been a release, although the extent of contribution from the subject site is not clear.

DEQ's comments are addressed in Section 3.1.1 of the enclosed Preliminary Assessment Soil and Groundwater Sampling report. As noted in the report, the PA sampling shows that there is no migration pathway for any releases from the Columbia Forge yard to migrate to the river. Contamination along the adjacent railroad alignment is clearly from releases associated with the railroad operations and upgradient properties. CSC cannot be responsible for characterizing the nature and extent of contamination in the railroad corridor given the presence of other, more



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significant sources of contamination to the railroad corridor and the lack of ownership by CSC.

North Area - DEQ Comment 2

The primary migration pathway from the railroad tracks presented in the PA was downward percolation to groundwater. Please provide more details on potential surface water flow west along the railroad tracks and then south to the river along N. Burlington. The metals do not appear leachable in these samples, so metal contamination leaching to groundwater does not appear to be a concern at this location.

Observations of surface water runoff during recent heavy rains noted that runoff along the railroad alignment flows to the west and enters the city storm water system catch basin at the railroad intersection with North Burlington Avenue. The catch basin and associated storm drain lines convey the water to the Willamette River at Outfall 52, located west of the St. Johns Bridge, near Cathedral Park, The vast majority of the runoff captured by the catch basins consists of a literal stream flowing down the railroad alignment between the two rails. Street runoff from uphill (i.e. north) on North Burlington Street also contributes significant runoff captured by the catch basin located at the intersection of Burlington and the UPRR railroad tracks. The "stream" along the railroad tracks extends east past the railroad intersection with North Richmond Avenue at the east end of the site. Some of the runoff along the railroad tracks also consists of runoff from the Lampros Steel and Columbia Forge building roofs. Given the presence of the stormwater planter, none of the runoff along the railroad alignment consists of direct runoff from the Columbia Forge yard, Section 3.1.1 in the enclosed report includes this discussion of the surface water flow path along the railroad tracks. Section 5.2.2 of the June 14, 2000, Preliminary Assessment report also discusses the surface water flow in the railroad corridor.

Borings - DEQ Comment 1

Analytical results for volatile organic compounds in groundwater were not submitted; please provide this data for DEQ review.

As we noted during our meeting on June 11, 2001, VOCs were not detected in any of the groundwater samples. The analytical laboratory report is included in the enclosed *Preliminary Assessment Soil and Groundwater Sampling Report*.

Borings - DEQ Comment 2

Groundwater from boring PP-3 showed elevated benzo(a)pyrene and total copper, lead, mercury, and zinc. DEQ recommends that this well be re-sampled for semi-volatile organic compounds and total metals to evaluate this apparent groundwater contamination. The original well development records for PP-3 should be reviewed to determine if adequate development had occurred prior to groundwater sampling; if necessary, further well development should be conducted prior to re-sampling this well.

On June 20, 2001 monitoring well PP-3 was resampled and the groundwater sample was analyzed for PAHs using EPA Method 8270 SIM. No PAHs were detected with the detection limits ranging from 0.1 μ g/l to 0.2 μ g/l for the various compounds.

These results are included in the enclosed *Preliminary Assessment Soil and Groundwater Sampling Report*.

PP-3 was not resampled for metals analysis. The initial unfiltered groundwater sample was turbid and the filtered sample was clear. The laboratory analysis noted a dramatic reduction in metal concentrations between the unfiltered and filtered samples. This clearly shows that the presence of metals in the unfiltered sample was the result of suspended particulates in the turbid sample and that the unfiltered sample was not representative of actual groundwater conditions.

Borings - DEQ Comment 3

An additional soil sample in boring PP-1 should have been collected within the black sand to evaluate the nature and extent of contamination. Comment #5 in DEQ's February 21, 2001 letter suggested that a water table sample be collected to evaluate upgradient historical sources in addition to the proposed black sand sample.

Based on Comment 5 in DEQ's February 21, 2001 letter, a soil sample was collected from near the top of the shallow groundwater zone in PP-1 to better assess for possible releases from historical features. With this revision, we were provided more flexibility in where we could collect a surface sample of the black sand. Based on field observations, the PP-1 location did not appear to represent the "worst-case" conditions for surface exposure to black sand. Black sand was observed at the ground surface about 80 feet east of the PP-1 location. A sample of the black sand was collected from the upper 2 feet at this location (i.e. SS-10).

Outfall - DEQ Comment 1

Lead, mercury, and pyrene concentrations in surface sediment sample SS-6 were elevated above threshold sediment screening criteria. The source of this contamination is not known, and is also present in groundwater immediately upgradient in boring PP-3. Please submit detailed soil descriptions for sample SS-6 and an evaluation of the potential for sediment in this area to migrate to the river.

Mercury was detected in sample SS-6 at a concentration of 0.4 mg/kg versus the DEQ SLV sediment *screening* concentration of 0.2 mg/kg and a McDonald PEC of 1.06 mg/kg. TCLP mercury was not detected in sample SS-6. Sample SS-6 was collected from beneath a surface layer of rock along the riverbank. Given the presence of this type of surface, it is doubtful that the material represented by SS-6 could be released to the river. This lack of connection to the river, the low relative exceedance of conservative screening criteria, and the measured concentrations being less than half of the PEC, suggest that if a release of mercury occurred from the abandoned pipe near SS-6, the mercury in the soil does not pose a threat to the river. The presence of metals in soil sample SS-6 is discussed in Section 3.4 in the enclosed *Preliminary Assessment Soil and Groundwater Sampling Report*.

Black Sand - DEQ Comment 1

Elevated levels of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls, and chromium, lead, and zinc were observed in the black sand. The proposed removal of black

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sand is generally acceptable and a removal plan including confirmation sampling and action levels should be submitted for DEQ review.

The black sand removal plan was finalized and approved by DEQ on October 9, 2001. We have subsequently completed the removal work and submitted a draft *Black Sand Removal Action* report on January 11, 2002.

Metal Debris - DEQ Comment 1

Elevated arsenic, chromium, copper, nickel, and zinc were observed in surface sediment around the metal debris. The proposed removal of metal debris and underlying sediment is generally acceptable and a removal plan including confirmation sampling and action levels should be submitted for DEQ review.

The black sand removal plan finalized and approved by DEQ on October 9, 2001 included provisions for removing this metal debris. We have subsequently completed the removal work and submitted a draft *Black Sand Removal Action* report on January 11, 2002.

Summary

Based on the results of the PA soil and groundwater sampling, issues remaining on the site are limited to those associated with the black sand present along the shoreline. We have recently submitted a draft report on the black sand removal. We anticipated further discussions with you as we move forward to address this area. In the meantime, please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.

Vice President

Environmental Consultant

cc: Mat Cusma/Crawford Street Corporation

Mark Reeve/Reeve Kearns